

[0017] FIGS. 5A and 5B illustrate an exemplary gaming machine.

[0018] FIG. 6 illustrates a block diagram of a control configuration for use in a gaming machine.

DETAILED DESCRIPTION

[0019] Embodiments are described herein in the context of a separable backlighting system for a display unit that requires a high intensity illumination source. The following detailed description is illustrative only and is not intended to be in any way limiting. Other embodiments will readily suggest themselves to such skilled persons having the benefit of this disclosure. Reference will now be made in detail to implementations as illustrated in the accompanying drawings. The same reference indicators will be used throughout the drawings and the following detailed description to refer to the same or like parts.

[0020] In this application, numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, the present invention may be practiced without some or all of these specific details. In other instances, well known process steps have not been described in detail in order not to obscure the present invention.

[0021] Reference will now be made in detail to some specific examples for carrying out the invention. While the invention is described in conjunction with these specific embodiments, it will be understood that it is not intended to limit the invention to the described embodiments. On the contrary, it is intended to cover alternatives, modifications, and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

[0022] The steps of the methods shown and described herein are not necessarily all performed (and in some implementations are not performed) in the order indicated. Moreover, some implementations of the methods discussed herein may include more or fewer steps than those shown or described.

[0023] Furthermore, the techniques and mechanisms will sometimes describe and/or illustrate a connection between two entities. It should be noted that a connection between two entities does not necessarily mean a direct, unimpeded connection, as a variety of other entities may reside between the two entities. For example, a processor may be connected to memory, but it will be appreciated that a variety of bridges and controllers may reside between the processor and memory. Consequently, an indicated connection does not necessarily mean a direct, unimpeded connection unless otherwise noted. Moreover, there may be other connections between entities than are indicated herein, e.g., in network diagrams.

[0024] The present invention, the components, process steps, and/or data structures may be implemented using various types of operating systems, computing platforms, computer programs, and/or general purpose machines. In addition, those of ordinary skill in the art will recognize that devices of a less general purpose nature, such as hardwired devices, field programmable gate arrays (FPGAs), application specific integrated circuits (ASICs), or the like, may also be used without departing from the scope and spirit of the inventive concepts disclosed herein.

[0025] Currently, one method to cool MLD systems is with fans that blow external air into an associated cabinet and the MLD system. However, dirt and dust from the external air builds up on the lighting devices and LCD panels thereby

causing the MLD system to lose intensity, fail prematurely, and require frequent servicing and maintenance. Since the lighting device is integral with the LCD panels, which allows for a thinner and compact display device, the entire device must be disassembled in order to replace, repair, service, or maintain any component of the MLD system. This results in down time for an associated device, which results in a loss of money to the device user.

[0026] The invention provides for an optical module and a lighting module to be separate but complementary structural modules. As further discussed below with reference to FIG. 1A, the optical module may include at least one optical film and at least one display, such as a liquid crystal display (LCD), or an MLD with a plurality of displays. As further discussed below with reference to FIGS. 1B and 1C, the lighting module may include a light diffuser, heat shield, a plurality of light sources, and a cooling component having heat sinks, fans, and any other components.

[0027] Contrary to current display devices, this may result in an increase in the thickness of the display device, but does provide for the ease and lower cost of replacing and/or maintaining the components of an MLD device without having to disassemble and/or replace the entire device. Additionally, having separate optical and lighting modules may decrease the down time of an associated device since either module may be easily replaced with a working module. For example, should the lighting source decrease in intensity, the lighting module may be replaced without having to remove the LCD panels and any other connected components, including a touch screen that may be affixed to the surface of the LCD panel.

[0028] FIGS. 1A-1C illustrate in exploded perspective view of various components of a separable backlighting system according to one embodiment of the present invention. FIG. 1D is a perspective view of an exemplary flow diagram of a cooling medium through the lighting module of FIGS. 1B and 1D. FIG. 1E is a back elevation view of the separable backlighting system of FIGS. 1A-1D. FIG. 1F is a block diagram of an exemplary logic device of the separable backlighting system of FIGS. 1A-1C. Although illustrated with the use of an MLD, the invention may be used with other non-MLD systems. Exemplary uses of the MLD system are described in detail with reference to FIGS. 4A, 4B, and 5B. FIG. 1A illustrates an exploded perspective view of the optical module. The optical module 100 may have a first display device 102 supported by a display frame 104. The display frame 104 may be made from any rigid material such as metal, aluminum, plastic, or the like. A second display device 106 may be arranged relative to the first display device 102 such that a common line of sight passes through a portion of the first display 102 device to a portion of the second display device 106. In use, the first display device 102 and the second display device 106 may be configured to output a visual image in response to one or more control signals transmitted from a logic device as further described in detail below. Although illustrated with only two display devices, the number is not intended to be limiting as any number of display devices may be used as illustrated in FIG. 4B. Furthermore, the display devices may be LCD panels or any other display device able to receive and transmit visual images. The display devices 102, 106 may present video and/or still images.

[0029] The optical module 100 may have an interstitial component or optical film 108 supported by an interstitial frame 110. The optical film 108 may be disposed between the